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Microscopes.

(*This Invention received Provisional Protection only.*)

PROVISIONAL SPECIFICATION left by Samuel Hickling Parkes at the Office of the Commissioners of Patents on the 6th March 1878.

SAMUEL HICKLING PARKES, of Birmingham, in the County of Warwick, Manufacturer. "IMPROVEMENTS IN MICROSCOPES."

My Invention consists of the improvements herein-after described in the stands of microscopes and in the mountings of the object glasses of microscopes, whereby the same instrument can be used either as a simple or compound microscope and rapidly and easily converted from one form of instrument to the other. The exchange of the object glasses is also rendered easy and rapid.

I construct and arrange the parts of microscope stands in the following manner:— At the end of the arm to which the lower part of the body of a compound microscope is usually attached I firmly fix a short tube, which I will call the holder.

The said holder is supported at or about its middle by the said arm. Within the said holder another tube, which I will call the fine adjustment tube, works.

The said fine adjustment tube has a limited range of motion in the holder, and is worked by the ordinary screw and lever arrangement in the arm of the instrument.

When the instrument is used as a simple microscope, the object glass mounted as herein-after described is inserted into the fine adjustment tube by sliding it in the said tube in which the mounting of the object glass fits accurately.

The object glass may either be put in its place by introducing it into the top of the fine adjustment tube and sliding it downwards therein, or it may be introduced at the bottom of the said tube and brought to its proper place by sliding it upwards. The instrument as described is now a simple microscope with coarse and fine adjustment, and the facility of changing the lenses gives it great advantages when used as a dissecting microscope.

To convert the instrument into a compound microscope, a tubular body for carrying the eye-pieces is attached to the holder carried by the arm. This body is made elastic at its lower end by short slits in the tube of which it is made, and it is passed on to the holder by a sliding motion.

As the body is connected with and disconnected from the holder by a sliding motion only, its removal and replacement can be effected with great facility and rapidity.

[*Price 2d.*]

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Parkes' Improvements in Microscopes.

In mounting the object glasses of microscopes, I fix them in tubular mounts which have a part near their top of larger diameter than the lower part. This enlarged part is made of the same diameter in all the mounts irrespective of the focal length of the object glass. This part of the mount of larger diameter fits accurately in the fine adjustment tube, and has at its top a broad mill-edged flange by which it is readily introduced into and removed from the fine adjustment tube.

When the object glass is to be inserted in the fine adjustment tube by being introduced at the bottom of the said tube, the enlarged part of the mount and the milled flange are situated near the lower end of the mount.

My Invention is applicable to microscopes of various constructions; and object glasses mounted according to my Invention may be adapted to compound microscopes of the ordinary construction by the use of an adapter. This adapter consists of a screwed collar taking into the concave screw in which the object glass as ordinarily mounted is screwed. This screw collar carries a tube into which the mount of the object glass fits, and into which it is introduced by an upward sliding motion.

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